

square, and the middle rib ending abruptly, as if cut off. In the large leaves, the two lower lobes are furnished with a tooth or additional lobe on their outside. They are attached by long peduncles and have a beautifully smooth and bright green surface. There is one variety of this tree which has the lobes of its leaves not pointed, but very obtuse. The flowers are large, solitary, and terminal. The outer calyx has two triangular leaves which fall off as the flower expands. The inner calyx consists of three large, oval, concave, veined leaves, of a pale green colour, spreading at first, but afterwards reflexed. Petals six, sometimes more, obtuse, concave, veined, of a pale yellowish green, marked with an irregular, indented crescent of bright orange on both sides toward the base. Stamens numerous, with long linear anthers opening outwardly, and short filaments. Pistil a large, conical, acute body, its upper half covered with minute, blackish, recurved stigmas; its lower furrowed, being a mass of coalescing styles and germs. The fruit is a cone of imbricated seed vessels, which are woody and solid, their upper portion formed by a long lanceolate scale. Seeds two, blackish, ovate, one or both often abortive.

The bark of the Tulip tree has a very bitter taste and a strong aromatic pungency. The latter property appears to reside in a volatile oil. When the bark is distilled with water, it fills the apartment with its fragrant odour, yet the product of the distillation, at least when the process is conducted in the small way with the luting of the apparatus not perfectly tight, has scarcely any taste or smell. Dr. Rogers informs us that he obtained an oily matter in the form of a whitish scum on the surface of the water in the receiver. A bitter resin exists in small quantities in the bark. Water dissolves a mucous substance, which is precipitated in a flocculent form by alcohol. Water is also impregnated with the bitterness, and, if too much heat be not employed, with some of the aroma of the tree. The sulphate of iron produced a dark brown colour, but a solution of isinglass did not increase the chemical evidence of astringency, producing a barely perceptible effect. Alcohol and proof spirit may be considered the most perfect solvents of the active ingredients of this article, although water dissolves enough to produce its medicinal effect.

The bark both of the root and branches acts on the system as a stimulating tonic and diaphoretic, having properties resembling the Cascarilla